

RELEASE CAPABILITIES MAPPING

Rel	Date	Site(s)	Objectives	Ext I/Fs	Capabilities	SDPS Services	CSMS Services	FOS Services
Interm Reles 1	DEC 95	4 sites (GSFC, MSFC, LaRC & EDC)	SDPF (TRMM) interface testing with MSFC/LaRC TSDIS (TRMM) interface testing with GSFC, MSFC Support to TRMM Version 1 Algorithm I & T Support to EOS AM - 1 Beta and Version 1 Algorithm I & T	SDPF/MSFC SDPF//LaRC TSDIS/GSFC TSDIS/MSFC NESDIS/GSFC DAO/GSFC SCF/ECS (algorithm transfer)	SDPF/ECS(LaRC) data transfer SDPF/ECS(MSFC) data transfer TSDIS/ECS(MSFC) data transfer TSDIS/ECS(GSFC) data transfer Basic ingest services at 3 sites (GSFC, MSFC & LaRC) TRMM CERES & LIS Level 0 ingest TRMM TSDIS data product ingest SCF/ECS data transfer (algorithms, algorithm support data) Full PGS toolkit support TRMM data Algorithm Integration Support Algorithm Execution/Test Support TRMM-LIS Version 1 algorithm I&T support TRMM-CERES Version 1 algorithm I&T support AM-1 Beta and Version 1 Algorithm I&T Support	<u>Ingest</u> • Ingest Services - Receive TRMM (CERES & LIS) L0 from SDPF - Receive L1 and other TRMM data from TSDIS - Store and retrieve temporarily-stored data (to support I/F testing) - Transmission (data size) checking - Request retransmission of missing TRMM data - Receive ancillary data from NOAA/NESDIS <u>Data Server</u> • Early TSDIS I/F testing (limited to protocols and connectivity checks) • Processing Execution - Pre-processing of selected TRMM ancillary data types (via SDP toolkit) - Support science software executable with PGS Toolkit I/F (PGE) • Process I&T - Algorithm I&T - Standards and PGS Toolkit mandatory use checkers - Algorithm I&T - Full submission CM capabilities - Algorithm queuing and execution support - GUI supported capability - Algorithm execution / test support - manual data staging / destaging tools	<u>Distributed Computing</u> • Distributed Object Framework - RPCs via DCE, DCE IDL • Object Services - basic naming and directory service (Cell Directory Service, CDS) - interprocess communications (sync messaging via RPCs) - DCE based security (authentication) - time service (DCE DTS) - thread service - event logger • Common Facilities - virtual terminal (telenet and x) - file transfer (FTP) - e-mail - bulletin board/news readers <u>Network Management</u> • Fault Resolution Management - event logging • Performance Management - event logging - network monitoring • Security Management - address filtering • Common Management Interface - Management User - Monitoring (WAN) - Discovery (network components) <u>System Management</u> • Performance Management - basic system performance statistics gathering	

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Interm Reles 1 (cont)						<ul style="list-style-type: none"> - Algorithm execution / test support - Production scripts for end-to-end processing (based on scripts developed / delivered by the SCF) - Algorithm execution / test support - Data comparison tool 	<ul style="list-style-type: none"> • Security Management <ul style="list-style-type: none"> - management of authentication and authorization (via host - level access) <p><u>Network</u></p> <ul style="list-style-type: none"> • Transport <ul style="list-style-type: none"> - TCP, UDP • Network <ul style="list-style-type: none"> - IP • Data Link/Physical <ul style="list-style-type: none"> - V0 infrastructure <p><u>Agent</u></p> <ul style="list-style-type: none"> • Agents <ul style="list-style-type: none"> - SNMP (as provided by COTS) <p><u>Management Logistics</u></p> <ul style="list-style-type: none"> • Configuration Management <ul style="list-style-type: none"> - SW change management 	

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A	DEC 96	4 Sites (GSFC, MSFC, LaRC & EDC)	<p>Version 0 interoperability</p> <p>Data search/access</p> <p>Support TRMM preparations</p> <p>Support TRMM data operations</p> <p>Landsat 7 Interface testing with EDC</p> <p>Support EOS-AM1 interface testing</p> <p>Provide core FOS functionality of planning and scheduling, CMS, telemetry, command, instrument and spacecraft analysis, user interface, and data management functions required for AM-1 spacecraft as well as IST toolkit</p> <p>Support for TRMM CERES & LIS Version 2 Algorithm I & T</p> <p>Support to EOS AM-1 version 2 Algorithm I & T</p>	<p>NSI : beta users ESDIS users PSCN: SCFs ADCs inter-DAAC Ecom: EDOS FDF NCC V0 DAACs (I/F network is CNE and/or PSCN) NOAA (V0 Client) NESDIS/GSF C DAO/GSFC SDPF/MSFC SDPF//LaRC TRMM DIS: (I/F network is CNE and/or PSCN) Landsat DHF/EDC Landsat DIS: (I/F network is EDC MAN and/or PSCN)</p>	<p>TRMM CERES/LIS data processing</p> <p>TRMM CERES & LIS data (L0) ingest and archive and archive services at 2 sites (LaRC and MSFC).</p> <p>TRMM data access</p> <p>TRMM data (L1-L4, ancillary, etc.) ingest and archive services at three sites (GSFC, MSFC, LaRC)</p> <p>Testbed for EOS-A1 flight ops</p> <p>Landsat LPS/ECS (EDC) Data Transfers</p> <p>Landsat LOR Data Ingest</p> <p>EOS AM-1 Data Ingest</p> <p>Basic Ingest Services at EDC</p> <p>Interoperable with CIESIN</p> <p>Two-Way Interoperability with V0 and ADCs (V0 Client)</p> <p>APIs for Information Management</p> <p>General scientist access</p> <p>Online archive of TBD TB (aggregate)</p> <p>algorithm-development support</p> <p>Information Management Services Available to CIESIN SEDAC</p> <p>Client/server access</p> <p>Coincident data search at individual sites</p>	<p><u>Data Server</u></p> <ul style="list-style-type: none"> Data Server <ul style="list-style-type: none"> Provide access to Data Type services Advertise data server data and services Support initial client session management Data Type <ul style="list-style-type: none"> Insert new TRMM, initial V0, TRMM ancillary, and other data objects Provide access to stored summary data (e.g. browse data) Provide access to stored data Provide search access for top levels of data pyramid Valid lists link and guide searches available with a graphical user interface. Access to information in addition to the V0 document types will be accessible Basic Subscriptions <ul style="list-style-type: none"> Events: <ul style="list-style-type: none"> Data arrival Metadata changes Actions: <ul style="list-style-type: none"> Notification Data distribution Core metadata and geophysical parameters searches. Spatial queries using minimum bounding rectangles and point radius. 	<p><u>Distributed Computing</u></p> <ul style="list-style-type: none"> Distributed Object Framework <ul style="list-style-type: none"> encapsulated OODCE IDL/RPC lifecycle (initiation of service, shutdown, move, recovery) Object Services <ul style="list-style-type: none"> naming/directory (GDS) time (DCE) w/time provider event message handling (async) interprocess communication security (authorization, access control lists, single login) Common Facilities <ul style="list-style-type: none"> bulletin board (NNTP, supports http) e-mail (x.400/SMTP gateway/MIME) file access (remote mount, DFS) Kerberized telnet and ftp user interface (GUI) Cell Administration <ul style="list-style-type: none"> multicell iso-cell admin tools <p><u>Network Management</u></p> <ul style="list-style-type: none"> Fault Resolution Management <ul style="list-style-type: none"> alarm processing/display event log analysis (manual) fault isolation, identification and recovery vendor diagnostics 	<p><u>Planning and Scheduling</u></p> <ul style="list-style-type: none"> Resource Models <ul style="list-style-type: none"> Initial instrument models Initial spacecraft subsystem models Scheduling Management <ul style="list-style-type: none"> Schedule list manager Activity tables Planning and Scheduling DB Timelines <p><u>Command Management</u></p> <ul style="list-style-type: none"> Load Management <ul style="list-style-type: none"> Validation of loads Build instrument loads Build spacecraft loads Ground Script Generation <ul style="list-style-type: none"> Generation of CMS DB Initial production of ground script <p><u>Command</u></p> <ul style="list-style-type: none"> Real-Time Commanding <ul style="list-style-type: none"> Command modes Command validation Command generation Command transmission Load Uplink <ul style="list-style-type: none"> Load validation Load transmission <p><u>Telemetry</u></p> <ul style="list-style-type: none"> General Processing <ul style="list-style-type: none"> Receipt of real-time telemetry

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A (cont)				<p>IP pickup points: (I/F network is CNE and/or JPL MAN and/or PSCN)</p> <p>FDF EDOS Ecom NCC ASTER (preliminary) SDVF</p>	<p>On-line browse/data visualization</p> <p>Full PGS Toolkit support for TRMM data processing (CERES, LIS)</p> <p>TRMM (CERES, LIS) Version 2 algorithm I&T support</p> <p>Test support for TRMM end-to-end processing</p> <p>Basic SDPS Scheduling</p> <p>Ancillary data ingest, validation, reformatting, and regridding for TRMM</p> <p>Migrate and/or access selected V0 data archives</p> <p>FOS Interface components needed to send and receive data to/from EDOS and ECOM</p> <p>FOS infrastructure components like user interface shell, inter-process communication, data base tables, communication interface with externals (e.g. , NCC, FDF, Ecom, EDOS)</p>	<ul style="list-style-type: none"> - Dataset specific results will be available as a view details operation • DS Schema Generation - Establish and export TRMM and initial V0 data schema • Data Storage - Basic resource management - Basic policy management - Store and retrieve permanently-stored data - Integrated archive management - Back up critical TRMM and system data - Provide an inventory of TRMM and initial V0 data stored within the data server. - Statistically monitor archive and media characteristics (Simple checksum) - Restore data - Three days worth of TRMM data archived in one day - Import/export physical media - Addition of hypertext linking and integration with inventory, browse, and ordering - Population of ECS guide with information (i.e. documents about datasets, sensors, platforms, and data centers) for TRMM and migrated V0 data. 	<ul style="list-style-type: none"> • Performance Management <ul style="list-style-type: none"> - network performance testing - event logging and analysis - network statistics reporting - network trending • Security Management <ul style="list-style-type: none"> - audit information collection - unique sessions for security controlled data - address filtering/isolation LANs • Common Management <ul style="list-style-type: none"> - map/Collections - monitoring (WANs, LANs, hosts) - office Automation tools • Report Generation <ul style="list-style-type: none"> - reporting (generic as provided by COTS applications) <p><u>System Management</u></p> <ul style="list-style-type: none"> • Fault Resolution Management <ul style="list-style-type: none"> - isolation, identification and recovery (via host-level access) • Performance Management <ul style="list-style-type: none"> - statistical data collection (via network management CSCI) • Security Management <ul style="list-style-type: none"> - audit information collection (via host-level access) - intrusion detection (virus, unauthorized user access detection via host-level access) 	<ul style="list-style-type: none"> • Packet Processing <ul style="list-style-type: none"> - Decommutation - Limit checking - Engineering unit conversion <p><u>Analysis</u></p> <ul style="list-style-type: none"> • Performance and Trending <ul style="list-style-type: none"> - Spacecraft subsystem performance and trends (initial) - Instrument performance and trends (initial) • History Reports <ul style="list-style-type: none"> - Initial reports of telemetry data <p><u>Resource Management</u></p> <ul style="list-style-type: none"> • Ground Configuration <ul style="list-style-type: none"> - Create/terminate logical strings - Resource Management DB • Failure Recovery <ul style="list-style-type: none"> - Initial failure recovery software switches <p><u>Data Management</u></p> <ul style="list-style-type: none"> • History Logging <ul style="list-style-type: none"> - Archiving of events and real-time telemetry - Initial event history reports • Project Data Base <ul style="list-style-type: none"> - Generation of telemetry data base - Generation of command data base

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A (cont)					<p>FOS core functionality and integration of all FOS services</p> <p>EOS AM - 1 Version 2 Algorithm I & T Support</p>	<ul style="list-style-type: none"> - Automated insert and update of inventory metadata - Automated insert and update of data set specific inventory metadata • DS Administration <ul style="list-style-type: none"> - Allow import/export of archive media - Allow manual mounting of archive media - Access tools for installed COTS data base products - Access Data Storage management tools - Generate selected reports - Provide additional administration services - COTS utilities and DBA tools for generation and loading and insert and update of data set specific metadata • Distribution <ul style="list-style-type: none"> - Support selected hard media distribution - Support electronic network distribution ("pull" and "push") - Provide status of data to be distributed - Provide selected data reformatting - Support data transfers to other sites (e.g. DAACs, SCFs) using normal distribution mechanisms 	<ul style="list-style-type: none"> • Accountability Management <ul style="list-style-type: none"> - user registration - audit trail (via host-level access) • Report Generation <ul style="list-style-type: none"> - reporting via host-level access - Ad hoc Reporting - DBMS - GUI Report Generation • Trouble Ticketing <p><u>Network</u></p> <ul style="list-style-type: none"> • Transport (per TCP/IP suite) • Network (per TCP/IP suite) • Data Link/Physical <ul style="list-style-type: none"> - LANs for Release A sites (ethernet, FDDI, implementation TBD) <p><u>Agent</u></p> <ul style="list-style-type: none"> • Agents (customized) • Physical Device Services • System Software Services <p><u>Management Logistics</u></p> <ul style="list-style-type: none"> • Inventory Management <ul style="list-style-type: none"> - HW, scientific SW, and system SW (using OA tools and e-mail) • Logistics Management <ul style="list-style-type: none"> - spares & consumable inventory management (using OA tools and e-mail) 	<p><u>User Interface</u></p> <ul style="list-style-type: none"> • Operator Input <ul style="list-style-type: none"> - Window management - User input language - User input processing • Data Display <ul style="list-style-type: none"> - Configuration displays - Real-time telemetry displays - Graphs and reports (initial) - Ground script execution

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A (cont)						<p>(excludes transfers of entire logical data set from one DAAC to another)</p> <ul style="list-style-type: none"> - Request V0 distribution status - Provide tracking, monitoring, and statusing of data to be distributed <p><u>Ingest</u></p> <ul style="list-style-type: none"> • Ingest Services <ul style="list-style-type: none"> - Receive TRMM and CERES and LIS metadata. - Selected media ingest - Receive ADC metadata, L0-L4 data, TRMM ancillary data, etc. - Receive SCF algorithms, L0-L4 data, etc. - Receive AM-1 L0 data - Full TRMM data checking - Receive TRMM and initial V0 HDF and native formats - Basic data checking of AM-1 L0 data - Notify processing services of the arrival of data required for TRMM processing - Ingest monitoring and control (TRMM support/ AM-1) <p><u>Planning</u></p> <ul style="list-style-type: none"> • Production Planning <ul style="list-style-type: none"> - Processing plan generation based on a simple strategy 	<ul style="list-style-type: none"> • Maintenance Management (using OA tools and e-mail) • Training Management <ul style="list-style-type: none"> - training management (using OA tools and e-mail) • Policies and Procedures Management (using OA tools and e-mail) • Configuration Management <ul style="list-style-type: none"> - baseline management - change request management - local network/system configuration management - resource management (network resource discovery/display via network CSCI) - system and site enhancement analysis (via OA tools) • Reporting <ul style="list-style-type: none"> - reporting (generic as provided by COTS applications) 	

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A (cont)						<ul style="list-style-type: none"> - GUI interface to DBMS tables • Production Management <ul style="list-style-type: none"> - Automatically initiate data processing requests based on Processing Plan and Data Availability Notices - Support reprocessing capability via the use of standard production requests - Operator support (via GUI) for initiating plan creation/activation/storage - Operator visibility (GUI) of processing (production plans) and logging of success/failure (data processing request status) - Remote user visibility of plans - Remote user visibility concerning expected delays in plans - Monitor processing against original plan <p><u>Data Processing</u></p> <ul style="list-style-type: none"> • Processing management <ul style="list-style-type: none"> - Accept data processing requests • Process Queuing <ul style="list-style-type: none"> - Queue processing requests - Automatic staging/destaging of data processing requests - Operator support (GUI) to modify priorities of data 		

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A (cont)						<ul style="list-style-type: none"> processing requests - Coordinate storage resource usage - Queue control and monitoring GUI • Processing Resource Mgmt <ul style="list-style-type: none"> - Processing resource allocation • Process I&T <ul style="list-style-type: none"> - Algorithm I&T - Algorithm performance analysis and resource management tools • Processing Execution <ul style="list-style-type: none"> - Execute data processing requests and determine processing status/errors - Manual QA, accounting, and metadata as required - Automated pre-processing of ancillary data types <p><u>Client</u></p> <ul style="list-style-type: none"> - Individual, group, and guest user privileges will be added to authentication function - Individual, group, and guest user authorization of available functions - Save user preferences (e-mail address, mailing address, etc.) at client - GUI / X-windows client (V0) - Browse request and visualization integrated with inventory search and product ordering will include the visualization of image browse data. Include request and display of coverage for multiple granules 		

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A (cont)						<p>simultaneously, as well as animation via a graphical user interface (e.g., footprints on a map)</p> <ul style="list-style-type: none"> - Attribute search with a graphical user interface - Users will be able to request data products from the ECS archive . Users may select physical media distribution of the product order from the user interface. - Acknowledgement of order and data availability at the time the order is placed. Handle notification of product distribution to user via e-mail - Interpret HDF Data (display file organization, show arrays as spreadsheets, interpret instrument specific structures, display and interpret P=V metadata) - EOSView Scripting (support external scripting of EOSView features) - Raster Image Display (pan and zoom images, change color mapping, color contrast) - Grid Data and Overlay Display (display projected grid data, display lat/long of selected point, overlay boundaries on image) 		

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A (cont)						<ul style="list-style-type: none"> - Animation (display a series of images, select animation sequence, control animation speed) - Annotations (display text or graphical annotations, driven by metadata) - Point Data Display (display point data on image as colored or numerically labeled points) - User interface for the integration of selected COTS package will be delivered. COTS package capabilities will include regression analysis and correlation of image sets. - User interface to BBS, User interface to DCE mail, X.400 e-mail, and remote log-on service - On-line collection of user feedback with automatic prompting, combined with user satisfaction metrics for quantitative assessment. - Incorporation of functions for event logging from applications for ad hoc analysis of user access patterns. <p><u>Data Management</u></p> <ul style="list-style-type: none"> • V0 Data Management <ul style="list-style-type: none"> - ECS to ADC Interoperability with the inventory and browse holdings of CIESIN and NOAA (V0 client implementation) 		

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A (cont)						<ul style="list-style-type: none"> - Spatial temporal coincidence Inventory searches within a single site using pre-determined tolerances. - Coincidence assessment from the user interface to display browse footprints on a map simultaneously. - One-way data order interoperability from V0 to ECS - Interoperability with the product ordering function of CIESIN and a NOAA data center (Under review with V0 client implementation) <p><u>Interoperability</u></p> <ul style="list-style-type: none"> • Capability to support interactive browsing, searching, and submission of advertisements • Provide subscriptions to changes, deletions, or new submissions of advertisements • Maintain advertisement for all datasets in Global Change Master Directory • Provide translations of GCMD descriptions into ECS advertisements 		

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B	SEP 97	8 Sites (GSFC, MSFC, LaRC, EDC, NSIDC, JPL, ASF & ORNL)	<p>Support EOS-AM1 operations</p> <p>Support Landsat 7 Operations</p> <p>Support COLOR Operations</p> <p>Support ADEOS II Operations</p> <p>DAO Support</p> <p>RADARSAT,ERS and JERS Support at ASF</p> <p>SDPS/CSMS/FOS (all from formal track)</p> <p>Provide full functionality of all services required for the AM-1 spacecraft</p>	<p>NSII general users</p> <p>PSCN: dial-up users</p> <p>NOAA (V0 Gateway)</p> <p>ASTER (final)</p>	<p>ASTER DARs and Interoperable with ASTER IMS</p> <p>Subscriptions for Distribution and Processing</p> <p>EOS AM-1 Data processing</p> <p>EOS AM-1 Data access</p> <p>EOS AM-1 Data ingest and archive services</p> <p>Landsat 7 L0R data access</p> <p>Landsat 7 L0R data ingest and archive services at EDC</p> <p>Landsat 7 L0R ordering support</p> <p>Online archive of TBD PB (aggregate)</p> <p>Full system integration and completion of performance analysis required for AM-1 launch.</p> <p>Inclusion of the Decision Support System</p> <p>SAR data archive and distribution at ASF</p> <p>Interoperability with CSA at ASF</p> <p>Two-way interoperability with V0 and ADCs (V0 Gateway)</p>	<p><u>Data Server</u></p> <ul style="list-style-type: none"> Data Server <ul style="list-style-type: none"> Provide access to additional Data Type services Timer-based subscriptions Suspend/resume client sessions Update subscriptions previously submitted Session time-outs (set by operator) Session logs Compression I/F (set by hardware/software) Data Type <ul style="list-style-type: none"> Provide search access to additional levels of the data pyramid for selected parameters Search (and results) on attributes across DAACs and data sets Manipulate selected stored data (subset, filter) Insert new AM-1, additional V0, AM-1 ancillary, and other data objects Provide access to stored data Archive multiple data versions Provide a toolkit of format, conversion tools. 	<p><u>Distributed Computing</u></p> <ul style="list-style-type: none"> Distributed Object Framework <ul style="list-style-type: none"> Enhanced OODCE Service Object Services <ul style="list-style-type: none"> federated naming security enhancements distributed file service (extensions) data integrity persistence transaction (for data access) Common Facilities <ul style="list-style-type: none"> enhancement for e-mail and bulletin board user interface (ChUI, dial-up) Cell Administration <ul style="list-style-type: none"> advanced admin tools user interface (based on object framework) file transfer (FTAM) object linking/interchange cataloging and browsing embedded objects clipboard object interchange object rendering printing and spooling <p><u>Network Management</u></p> <ul style="list-style-type: none"> Security Management <ul style="list-style-type: none"> security for FOS <p><u>System Management</u></p> <ul style="list-style-type: none"> Fault Resolution Management <ul style="list-style-type: none"> event log analysis 	<p><u>Planning and Scheduling</u></p> <ul style="list-style-type: none"> Resource Models <ul style="list-style-type: none"> Final instrument models Final spacecraft subsystem models Scheduling Management <ul style="list-style-type: none"> Activity builder Analysis tools Conflict management tools <p><u>Command Management</u></p> <ul style="list-style-type: none"> Load Management <ul style="list-style-type: none"> Flight software loads Memory dump compares Update ground reference image Conflict resolution of spacecraft loads Ground Script Generation <ul style="list-style-type: none"> Final production of ground script <p><u>Command</u></p> <ul style="list-style-type: none"> Real-Time Commanding <ul style="list-style-type: none"> Critical commanding Command verification <ul style="list-style-type: none"> Telemetry verification Load Uplink <ul style="list-style-type: none"> Load verification <p><u>Telemetry</u></p> <ul style="list-style-type: none"> General Processing <ul style="list-style-type: none"> Receipt of SSR telemetry Archive of memory dump data Pseudotelemetry

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B (cont)						<ul style="list-style-type: none"> - Full COLOR data checking - Receive COLOR HDF and native formats - Extract COLOR inventory metadata - On-demand processing coordination - Spatial queries with polygon searches. - DAR function accessible from the distributed client; user updates to ASTER DARS. • Data Storage <ul style="list-style-type: none"> - Refined resource management - Refined policy management - Backup critical AM-1 data - Recover data from failed devices and media - Store Level 0 data as backup for EDOS - Provide application programming interface to storage and retrieval services - Delete archive data upon authorized request (COTS API for operator to execute) - Notify user when a product is eligible for deletion - Statistically monitor, archive, and media characteristics (simple checksum) 	<ul style="list-style-type: none"> • Performance Management <ul style="list-style-type: none"> - system performance testing - system performance analysis - system tuning/optimization - trends analysis (short & long term) - application monitoring • Security Management <ul style="list-style-type: none"> - recovery initiation - risk analysis • Directory Information Management • Resource Scheduling Management <ul style="list-style-type: none"> - cross-site scheduling - schedule adjudication • Accounting Management <ul style="list-style-type: none"> - accounts payable/receivable management - credit tracking - price estimation for data - resource utilization costing - invoicing and billing • Report Generation <ul style="list-style-type: none"> - customized reporting • Mode Management <p><u>Network</u></p> <ul style="list-style-type: none"> • Transport (per TCP/IP suite) • Network (per TCP/IP suite) • Data Link/Physical <ul style="list-style-type: none"> - ATM (TBD) - LANs for Release B sites (Implementation TBD) 	<ul style="list-style-type: none"> - Statistics - S/C clock drift computation • Packet Processing <ul style="list-style-type: none"> - Telemetry subsetting - Telemetry replay <p><u>Analysis</u></p> <ul style="list-style-type: none"> • Performance and Trending <ul style="list-style-type: none"> - Spacecraft subsystem performance and trends (final) - Instrument performance and trends (final) - Integration of special processing algorithms • History Reports <ul style="list-style-type: none"> - Final reports of telemetry data - Statistics reports <p><u>Resource Management</u></p> <ul style="list-style-type: none"> • Ground Configuration <ul style="list-style-type: none"> - Logical strings for replay • Failure Recovery <ul style="list-style-type: none"> - Final failure recovery softwares switches <p><u>Data Management</u></p> <ul style="list-style-type: none"> • History Logging <ul style="list-style-type: none"> - Final event history reports - Filtering of events for report purposes - Interface with SDPS for history files • Project Data Base <ul style="list-style-type: none"> - Data base file management utilities - Database reports

RELEASE CAPABILITIES MAPPING

Rel	Date	Site(s)	Objectives	Ext I/Fs	Capabilities	SDPS Services	CSMS Services	FOS Services
B (cont)						<ul style="list-style-type: none"> - Three days worth of AM-1 data archived in one day - Fully integrated archive management (all sites) - Provide an inventory of AM-1 and additional V0 data stored within the data server - API for accessing ECS inventory search and administration utilities - Provide an inventory of COLOR data stored within the data server - Additional information for EOS-AM1 mission and Landsat-7, and migrated V0 data; additional information on subsetting options available from ECS. • DS Schema Generation <ul style="list-style-type: none"> - Establish and export AM-1, COLOR, and additional V0 data schema • DS Administration <ul style="list-style-type: none"> - Provide application programming interfaces to DS administration services - Generate additional selected reports - Enhancements for distributed inventory administration. • Distribution <ul style="list-style-type: none"> - Support additional hard media distribution - Allow prioritization of distribution requests - Generate automated accounting information for distributed data 	<u>Agent</u> <ul style="list-style-type: none"> • Application Services <u>Management Logistics</u> <ul style="list-style-type: none"> • Inventory Management <ul style="list-style-type: none"> - HW, scientific SW, and system SW • Logistics Management <ul style="list-style-type: none"> - spares and consumable inventory management • Maintenance Management • Training Management <ul style="list-style-type: none"> - training management • Policies and Procedures Management • Configuration Management <ul style="list-style-type: none"> - remote software distribution - software license administration (automated) - inter-DAAC system configuration management 	<u>User Interface</u> <ul style="list-style-type: none"> • Operator Input <ul style="list-style-type: none"> - Advanced window management - Procedure execution • Data Display <ul style="list-style-type: none"> - Graphs and reports (final) - Display builder - On-line documentation

RELEASE CAPABILITIES MAPPING

Rel	Date	Site(s)	Objectives	Ext I/Fs	Capabilities	SDPS Services	CSMS Services	FOS Services
B (cont)						<ul style="list-style-type: none"> - Provide billing service for distributed data - Provide cost estimates for data to be distributed. - Transfer Level 0 data to EDOS upon request - Provide time estimates for data to be distributed - Order history across DAACs - Allow cancellation, suspension, and restart of distribution requests (set by operator) - Support to user cancellation of orders <p><u>Ingest</u></p> <ul style="list-style-type: none"> • Ingest Services <ul style="list-style-type: none"> - Receive AM-1 metadata, L0 data, etc. (incl. ASTER Level 1 data from Japan) - Additional media ingest types - Ingest hard copy input by scanning and digitizing - Receive EOC instrument, spacecraft, and other data - Receive AM-1 ancillary data, etc. - Receive FDF repaired orbit data - Full AM-1 data checking - Receive AM-1 and additional V0 HDF and native formats - Extract AM-1 and additional V0 inventory metadata - Receive COLOR metadata, L0-L4 data, etc. 		

RELEASE CAPABILITIES MAPPING

Rel	Date	Site(s)	Objectives	Ext I/Fs	Capabilities	SDPS Services	CSMS Services	FOS Services
B (cont)						<u>Planning</u> <ul style="list-style-type: none"> • Production Planning <ul style="list-style-type: none"> - Processing plan generation based on simple strategies and DASes - Generation of local Data Availability Schedule - String load balancing (single DAAC) - Support reprocessing capability via a reprocessing request management interface - Integration of DAAC plans • Production Management <ul style="list-style-type: none"> - Limited automatic replan - Automatic transition from one Plan to next - Accept on-demand production requests <u>Data Processing</u> <ul style="list-style-type: none"> • Process Queuing <ul style="list-style-type: none"> - Predictive staging of processing inputs • Process I&T <ul style="list-style-type: none"> - Enhanced submission/ installation scripts and CHUI • Process Execution <ul style="list-style-type: none"> - Pre-processing of all AM-1 ancillary data types (via SDP toolkit) - DAAC independent queuing functionality across strings - DAAC QA enabling software (all TRMM and AM-1 instruments) 		

RELEASE CAPABILITIES MAPPING

Rel	Date	Site(s)	Objectives	Ext I/Fs	Capabilities	SDPS Services	CSMS Services	FOS Services
B (cont)						<p>Client</p> <ul style="list-style-type: none"> - DAR interface operational with ASTER GDS ; user updates to DARS - User interface integrated with Guide search for help on instruments and data products. - Menu and context sensitive help - Save and restore searches and results at point of access (storage in client) - Integration of user interface with CSMS provided self registration function. - Enhancements for distributed client so users may access profile information from anywhere in the system. - Additional help for DAR submittal - Enhancements for distributed client so users may access saved searches and results from anywhere in the system (storage in the host subsystem) - Display of orbit tracks to aid in query and DAR formulation and to help the user construct an inventory search. - Automatic guest, authorized user, individual (groups) authentication for distribution 		

RELEASE CAPABILITIES MAPPING

Rel	Date	Site(s)	Objectives	Ext I/Fs	Capabilities	SDPS Services	CSMS Services	FOS Services
B (cont)						<ul style="list-style-type: none"> - On-demand processing of EOS-AM1 ASTER products. Integration of user interface processing schedules and orbital models for help on products - User requests of status of site for ordering data from ECS. Status integrated with tracking of distributed requests. On-request status of orders. - Interactive status of distributed requests - Dialog with ASTER GDS for distribution and processing on demand status as negotiated in interface MOU - Status for processing on demand products on demand products. Status integrated with tracking of distributed requests - Notification of product production delay and/or request conflict - Distribution status for orders V0 data, NOAA and CIESIN data as negotiated in the MOU - Price estimation of NOAA and CIESIN orders as negotiated in interface MOU - Dialog with ASTER GDS for DAR status. - Cost estimation of ASTER and Landsat-7 orders as negotiated in interface MOU. - File Conversions (capability to incorporate additional data formats and conversions) 		

RELEASE CAPABILITIES MAPPING

Rel	Date	Site(s)	Objectives	Ext I/Fs	Capabilities	SDPS Services	CSMS Services	FOS Services
B (cont)						<ul style="list-style-type: none"> - Interpret HDF Data (continued work on instrument specific structures) - ColorTable (color table editor, sophisticated color table manipulations) - Annotations (ability for user to add their own annotations on images) - Cost estimation of ECS orders. Full system accounting support for user account billing. - Online tutorial for system access, search, browse, and order. Three levels of user interaction supported - Simultaneous display of multiple browse products - Character user interface will be supported for a limited set of functions - Character user interface will be added for the directory search function - Character user interface added for the guide search, similiar to the V0 line Browser function - Character user interface to support product ordering function - Character user interface for product processing requests 		

RELEASE CAPABILITIES MAPPING

Rel	Date	Site(s)	Objectives	Ext I/Fs	Capabilities	SDPS Services	CSMS Services	FOS Services
B (cont)						<ul style="list-style-type: none"> - Time estimate of on-demanding subsetting and subsampling prior to distribution. Handle distribution delay notification and notify user community via bulletin board - Interface for conflict adjudication and resolution service - Support interactive user order cancellation <p><u>Data Management</u></p> <ul style="list-style-type: none"> • DIM <ul style="list-style-type: none"> - Interactive status of distributed requests - Distribution of browse from distributed archive. - Distributed archive support of ECS product orders. - Spatial, temporal coincidence search across DAACs; Keyword coincidence search within a site • LIM <ul style="list-style-type: none"> - Two-way interoperability with Version 0 - Sorting of inventory results to view date and attribute clustering - Geographic name search additions - Two way search and data order interoperability with CIESIN and NOAA 		

notes:

regular text: within baseline
bold text: possible evolutionary enhancement